State of Wisconsin

Division of Enterprise Technology (DET)

Geocoding Web Service using the ArcGIS Geocoding API

Service Offering Definition (SOD)

Document Revision History (Major Post Publishing Revisions Only)

Date	Version	Creator	Notes

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Introduction

This Division of Enterprise Technology (DET) Geocoding Web Service using the ArcGIS Geocoding API provides state agencies and local governments the means for finding the geographic coordinates (latitude and longitude) of an address through a variety of inline and batch processing scenarios. This common function applies to any business data and is typically done for the purpose of creating maps or conducting spatial analysis.

What Is Included

Geocoding services for a variety of workflow scenarios:

- Transactional geocoding for processing addresses on a per-transaction basis via:
  - A geocoding SOAP web service (Simple Object Access Protocol)
  - A geocoding REST service (Representational State Transfer)
- On-demand batch geocoding for processing large datasets in groups via:
  - ESRI ArcGIS Desktop clients
  - Flat file transfer processes per customer requirements
- Technical support for the geocoding service, including web service account configuration assistance.
- Availability and performance monitoring for the geocoding service
- Developer assistance for implementing geocoding service clients, including .Net and Java code samples.

What Is Not Included

- Development or support of geocoding service clients
- Address verification and standardization services

Benefits

- Geocoding services are used widely by state agencies.
- The geocoding service will reduce the duplication of geocoding solutions.
- The geocoding service will provide a standard interface for geolocation that may be shared by many agencies.

Service Description

The purpose of the geocoding service is to provide a simple, shared solution for geolocating business data. Any state or local agency may use this service. This service is related to a request by state agencies that DET investigate Address Verification and Standardization (AVS) and geocoding services as enterprise services offered by DET and it may be refined over time as a result of that activity.

The geocoding service will be deployed in the GIS Shared Environment as Development, UAT, and Production instances. Locator data used by the service will be deployed to these server environments and maintained by DET Geographic Information Office (GIO) staff. Access to the service will be secured via integration with enterprise IAM/Directory services.

The accuracy of geocoding service results is dependent upon the quality of address data provided. As such, the use of an address verification and standardization service is highly recommended to insure best results.

Service Period

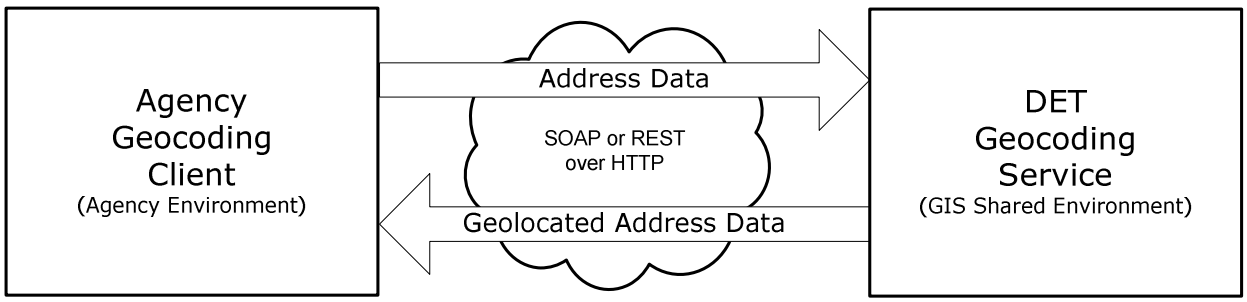
The SOD, RnR and Rate will be reviewed annually to determine if any modifications are required.

Roles and Responsibilities

Roles and Responsibilities for the GIS Shared Environment service can be found here.

Configuration Diagram

The geocoding service operates in the 'GIS Shared Environment' at DET (see 'GIS Shared Environment' documentation for details). An agency Web Service (SOAP) or REST client invokes the Geocoding Web Service or REST service via HTTP, sending address data in the request. The Geocoding Service responds with latitude and longitude coordinates (x and y values) for the address data provided. Technical documentation will be available to consumers that explain this in detail.



An example request:

101 E WILSON ST, MADISON, WI, 53703

An example response:

Point:
X: -89.380097611953
Y: 43.0733908531746
Score: 100
Match_addr: 101 E WILSON ST, MADISON, WI, 53703

The latitude and longitude coordinates (x and y values) returned by this service will be in the World Geodetic System 1984 (WGS_1984) coordinate system.

How Services Are Charged

Consumers of the geocoding service will be billed monthly based on the number of transactions made over the previous month as recorded against an assigned service account within the application services transaction logging. A transaction in this case is one call to the address geocoder for a single address. This service account will also control access to the SOAP and REST secured web services. As billing will be based on the service account, it is recommended that consumers of the service assign individual service accounts to divisions which require a separate bill from General Services Billing (GSB).

Please see the DOA IT Services Rate Sheet for rate information.

Cost-Saving Tips

Cost savings will depend upon the scale of use. Currently, state agencies implement, maintain, and support numerous geocoding service solutions, repeatedly incurring licensing, implementation, and support costs where a single investment could be shared.

While retrofitting existing applications may be prohibitive, this service provides a solution for new applications and is available to existing portfolios on a case-by-case basis.

Once you start using a geocoding service another way to save money is to simply avoid sending the same address through multiple times. A simple way to do this is to save the latitude and longitude for a particular address in a database. In the short-term future, if you encounter this same address you can just retrieve the coordinate from the database instead of geocoding the address. Please note, for the long-term (more than 3-6 months) this approach is not recommended. Street names and addresses for the same geographic point do change over time.

* Technical information on use restrictions and terms of use is available upon request.